ATTACHMENT J4

Robins AFB Wastewater System

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J4.1 Robins AFB Overview

In June 1941, the U.S. War Department gave official approval for construction of an Army Air Depot in Georgia. Construction of this facility, initially known as the Georgia Air Depot, began in September 1941. In December of that year, the bombing of Pearl Harbor increased the urgency of completion of this vital military facility. In August 1942, construction of the new airfield's industrial and cantonment areas were completed, and the second and third phases were completed by April 1943. From the base's opening through World War II, the depot's name changed several times, and it worked in conjunction with several satellite bases.

After the war, the satellite bases closed and the depot was renamed the Warner Robins Air Materiel Area (WRAMA), after Brigadier General Augustine Warner Robins, one of the Army Air Corps' first General Staff Officers and commander of the Fairfield Air Intermediate Air Depot (FAID), Ohio, from 1921 to 1928. The base's designation changed to its current form in 1974, when its new worldwide responsibilities led it to be renamed the Warner Robins Air Logistics Center (WR-ALC).

The basic mission of WR-ALC has not changed since its beginnings in 1941. The primary task of the Center is to maintain Air Force aircraft and their components. The methods of meeting this responsibility have changed only in the equipment itself and the complexity of the workload. Under the guidance of WR-ALC, the Center carries out repair, maintenance, supply, and other related logistics functions.

Robins Air Force Base (AFB) is located in Houston County and lies immediately east of the City of Warner Robins, approximately 16 miles south of Macon, Georgia. Robins AFB comprises approximately 8,855 acres and, as the State's largest industrial facility, supports approximately 25,000 military and civilian personnel. The host tenant at Robins AFB is Warner Robins Air Logistics Center (WR-ALC). There are over 40 military organizations that are currently active at Robins AFB.

WR-ALC is an integral member of the Air Force Materiel Command (AFMC) and is one of three ALCs in the Air Force. Currently, WR-ALC is tasked with providing worldwide logistics management, engineering, and maintenance of weapon systems including the C-5, C-17, F-15, C-141, and C-130 aircraft, and is the Avionics repair center of the Air Force with more than 20 major organizations supporting those activities. Other tenant units are also active at Robins AFB. These include the following:

- Headquarters Air Force Reserve Command (HQ-AFRC)
- 5th Combat Communications Group (CCG)
- 19th Air Refueling Group
- 116th Air Control Wing—JSTARS (ACW)
- 367th Recruiting Group

- Defense Distribution Depot—DLA (Contracted)
- Defense Megacenter Warner Robins
- Electronic Combat Support Flight
- Robins NCO Academy
- 339th Flight Test Squadron
- 653rd Combat Logistics Support Squadron

J4.2 Wastewater System Description

J4.2.1 Wastewater System Fixed Equipment Inventories

The Robins AFB wastewater system consists of all appurtenances physically connected to the collection system from the point of demarcation defined by the Right of Way. The system may include, but is not limited to, pipelines, manholes, lift stations, valves, controls, treatment plants, and meters. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the wastewater system privatization are:

- Storm Sewers.
- Oil Water Separators.
- Grease Traps.
- Septic Systems.
- Abandoned wastewater collection piping and associated infrastructure (see technical library for additional details).
- Groundwater treatment plant (GWTP) and associated infrastructure.
- City of Warner Robins-owned sections of wastewater system piping and valves located on the north and south ends of the Base.
- Service lines in Military Family Housing (MFH).
- RAFB SCADA System.

J4.2.1.1 Description

The wastewater collection and treatment system at Robins includes both the domestic (sanitary) and industrial systems. Each system has its own set of collection piping and treatment facilities. The industrial system is made of up two treatment plants – industrial wastewater treatment plant (IWTP) No. 1 and No. 2. IWTP No 1 discharges directly into the domestic treatment plant for final polishing. The treated effluent from IWTP No. 2 is

combined with the treated effluent from the Domestic Wastewater Treatment Plant in the effluent pump station. There is also an on-base Groundwater Treatment Plant (GWTP), whose treated effluent is also combined in the effluent pump station. The GWTP, and its associated infrastructure, is not included with the wastewater system being privatized. The point of demarcation is where effluent from the GWTP enters the Parshall flume.

Treated wastewater from the Domestic Wastewater Treatment Plant, IWTP #2 and the GWTP are combined in the effluent pump station prior to discharge offsite into the Ocmulgee River. Robins AFB's treated wastewater is discharged into the Ocmulgee River under national pollutant discharge elimination system (NPDES) permit No. GA 0002852. There are three compliance points (outfalls) with permit limits for wastewater discharge, one each, from the Domestic Wastewater Treatment Plant, GWTP, and IWTP #2. Outfall No. 008 is the monitoring point for the IWTP No. 2. Outfall No. 009 is the monitoring point for the Domestic Wastewater Treatment Plant. Outfall No. 010 is the monitoring point for the GWTP.

Robins AFB has excavation restrictions in portions of the Industrial Area due to contamination of subsurface soils and groundwater from spills, leaks, and other releases that predate regulatory restrictions. This restricted excavation area houses machine shops, metal finishing, industrial waste treatments plant and associated underground piping, industrial materials storage, and drummed waste storage facilities. Implementation of the remedy selected in the Excavation Plan for the Industrial Area is required in order to ensure the protection of personnel coming into contact with the site and to eliminate or minimize risk associated with the contamination. This area of the Base is 84% paved, behind security fencing, under building foundations or beneath streets. There is very limited potential for exposure to workers, visitors or trespassers in the area. The most likely scenario in which exposure to contaminated soils might occur is in the event of maintenance or construction activities requiring excavation of affected soil. Maps of the area and a copy of the Excavation Plan for Industrial Area will be supplied in the technical library.

J4.2.1.1.1 Domestic Wastewater System Description

The original construction of the domestic system infrastructure began in 1942. The domestic system consists of collection piping, manholes, lift stations, and a treatment plant. The original domestic wastewater treatment plant is not currently operational. Treatment equipment was removed and replaced with a lift station located at the former headworks, which is used to transfer wastewater to the newer treatment facility. This lift station and drying beds, still located at the facility, are referred to as Domestic Wastewater Treatment Plant No. 2. Original materials of construction for the collection system consisted primarily of vitrified clay and concrete pipe with brick manholes. New construction is generally PVC pipe, and concrete manholes. Standard installation practices are to install tracer wire or tape with plastic piping; however, it is not known if all plastic piping was installed with tracer wire or tape.

Most of the pipe is 4 to 15-inches in diameter. The domestic collection system is comprised of several different piping materials, including cast iron, asbestos cement, reinforced concrete, vitrified clay, ductile iron, and polyvinyl chloride (PVC). Approximately 70 percent of the collection piping material is vitrified clay, of which approximately 90 percent has been slip-lined. The average burial depth of the piping is approximately 8 feet below

ground surface. Approximately 25 percent of the collection system is installed beneath paved surfaces.

Robins AFB is nearing completion of a five-year collection pipe improvement program to clean, inspect, and repair the sanitary sewer lines. Approximately 30 miles of the estimated 43 miles of aging pipe have been cleaned and inspected through this program. Approximately 180 point repairs have been completed along these sections of pipe. The repairs were noted as point repairs and also include some repairs made for pipe breaks, independent of the program. In some cases, the point repairs were instead full segment repairs. Generally, lines are being repaired by slip lining with high density polyethylene pipe or with an in-situ liner.

There are 47 Domestic Wastewater Lift Stations located throughout the base that are used to transfer wastewater to other lift stations or manholes. All of the sanitary wastewater is transferred to the Domestic Wastewater Treatment Plant for processing. Most of the lift stations are equipped with two submersible type pumps. Pumps and controls at the lift stations were up-graded or replaced since 1991. SCADA monitoring equipment has been added, or is in the process of being added, to the lift stations.

The current Domestic Wastewater Treatment Plant is designed to provide preliminary, primary, secondary, and tertiary treatment prior to discharge into the Ocmulgee River and was constructed in 1971. The point of demarcation is where the discharge pipeline terminates at the Ocmulgee River. The treatment facility consisted of a plant headworks, grit chamber, grinder, comminutor, influent Parshall flume, primary sedimentation tanks, trickling filters, secondary clarifiers, centrifuge, and disinfection with chlorine. Solids handling consisted of anaerobic digestion. In 1978 the treatment facility was expanded to include additional primary sedimentation tanks, aeration tanks (nitrification tanks), new secondary clarifiers, tertiary filters, and chlorination and dechlorination facilities. Aerobic digesters and drying beds were added to the solids handling facilities. Further modifications made to the treatment facilities included replacing the chlorine disinfection with ultraviolet disinfection and installing a plant effluent pumping station. Chlorine is still added to the treated water to meet chlorine residual requirements in the permit.

Sludge generated from the aerobic and anaerobic (following stabilization) digesters is transferred to a centrifuge for de-watering on-site. The de-watered solids are then disposed of off-site at an approved facility.

Air Force operations include occasional, unscheduled, discharges of Aqueous Film- Forming Foam (AFFF) to the wastewater treatment system. Current treatment plant operations include the addition of defoaming agents.

The service laterals from housing units in MFH areas are not included with the domestic wastewater system being privatized. The point of demarcation is where the service lateral connects to the domestic wastewater collection main.

The following domestic wastewater system projects were awarded at end of FY 2003. These projects will be accomplished by the Government. Changes resulting from these projects ARE NOT reflected in the inventories shown in Table 1A.

Project Location (Building #)	Project Description

Project Location (Building #)	Project Description
322	Rehabilitate SWTP Clarifier 1
322	Rehabilitate SWTP Clarifier 2
810	Upgrade of Splitter Box at SWTP No. 2

J4.2.1.1.2 Industrial Wastewater System Description

The industrial wastewater system is connected to more than 30 facilities. Construction of system began in 1964. It consists of collection piping, manholes, lift stations, and treatment facilities.

There is approximately 12 miles of collection piping ranging from 2 to 30 inches in diameter. Most of the pipe is in the 3- to 15-inch range. Approximately 2.1 miles of the collection piping was installed as sanitary sewer or storm sewer collection lines prior to 1964 and has subsequently been converted for industrial wastewater use. The average burial depth of the piping is approximately 8 feet below ground surface. Approximately 20 percent of the collection system is installed beneath paved surfaces. Steel collection piping is cathodically protected by a series of sacrificial anodes. Information on cathodic protection is included in the technical library.

Two treatment plants were constructed at the installation to treat collected industrial wastewater. IWTP No. 1 was constructed in 1964 and treats waste from paint/depaint operations, cleaning operations, machine shops, printed circuit board manufacturing operations, and a graphics photo laboratory. The plant is estimated to have a capacity of 0.65 mgd. Additional treatment facilities to complement IWTP No. 1 were added in 1975 and 1979. These additional treatment facilities are considered part of IWTP No. 1.

IWTP No.1 consists of an influent pumping station, paint chip removal system, oil/water separation, retention basins, a chrome reduction system consisting of two tanks, two clarifier tanks, and one holding tank for regulating the flow of water into the trickling filters at Domestic Wastewater Treatment Plant. Several of the tanks at the treatment facility are cathodically protected. Information on cathodic protection is included in the technical library.

IWTP No. 2 was constructed in the mid 1970s and treats wastewater from electroplating operations in Building 142, which is located adjacent to the plant. Building 142 is the only facility connected to IWTP No.2. The facility has an estimated capacity of 0.65 mgd.

IWTP No.2 consists of a cyanide removal system, flash mix tank and basin for pH adjustment, chrome reduction system, two clarifier tanks, a neutralization tank, and effluent pumping plant. The effluent pumping plant discharges treated water to the wet well of the Domestic Wastewater Treatment Plant effluent pumping plant. Several of the tanks at the treatment facility are cathodically protected.

NOTE: Due to new coating technologies and potential construction of a new plating facility, flow rates at IWTP # 2 may decline or be eliminated by FY 2006.

Sludge generated from the settling tanks for IWTP No. 1 is pumped to a sludge thickener. From the thickener the sludge is transferred to a storage tank at Building 352 (Solids Handling Facilities). From the storage tank at Building 352, the solids are pumped to a feed tank and then through a plate and frame type press for dewatering. The dewatered solids are transferred from the plate and frame press to plastic lined containers. The containers are temporarily stored within Building 352 prior to off-site disposal. The de-watered solids are disposed of as hazardous waste at an approved facility.

Sludge generated from IWTP No. 2 is pumped from clarifiers to sludge feed tank at Building 352. The dewatered solids are transferred from the plate and frame press to plastic lined containers. The containers are temporarily stored within Building 352 prior to off-site disposal. The de-watered solids are disposed of as hazardous waste at an approved facility.

The collection system for IWTP No. 1 includes a series of lift stations. There are 25 Industrial Wastewater Lift Stations located throughout the base that are used to transfer wastewater to other lift stations or manholes. Twenty four(24) of the lift stations use submersible type pumps and one station (I-8) has vacuum prime type pumps. All of the stations contain two (2) pumps.

Current Air Force operations include occasional, scheduled, discharges of water and sludges as a result of cleaning oil/water separators on base. Contents from chemical toilets from aircraft are also discharged into the system from time to time.

The following industrial wastewater system projects were awarded at end of FY 2003. These projects will be accomplished by the Government. Changes resulting from these projects ARE NOT reflected in the inventories shown in Tables 1.

Project Location (Building #)	Project Description
141	Convert Existing IWTP Effluent ST No. 2 to Clarifier No. 1B
141	Convert IWTP Clarifier 1B to Clarifier No. 1A
141	Convert IWTP Clarifier 1A to Clarifier No. 2B
141	Convert IWTP Clarifier 2 to Clarifier No. 2A
141	Refurbish IWTP No. 1 Holding Tank
141	Removal/Replacement of Process Tanks at IWTP Plant No. 2

J4.2.1.2 Inventory

Tables 1A and **1B** provide a general list of the major system fixed assets for the Wastewater System included in the sale.

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
MAIN BASE				
PVC Pipe	4-in.	3,757	lf	1985
PVC Pipe	6-in.	5,786	lf	1985
PVC Pipe	8-in.	9,970	lf	1985
PVC Pipe	10-in.	1,190	lf	1981
PVC Pipe	12-in.	3,290	lf	1993
PVC Pipe (FM)	4-in.	4,280	lf	1984
PVC Pipe (FM)	6-in.	4,770	lf	1985
PVC Pipe (FM)	10-in.	9,090	lf	1995
PVC Pipe (FM)	18-in.	16,800	lf	1991
Ductile Iron Pipe (FM)	2-in.	230	lf	1960
Ductile Iron Pipe (FM)	4-in.	1,190	lf	1977
Ductile Iron Pipe (FM)	6-in.	1,130	lf	1965
Ductile Iron Pipe (FM)	8-in.	110	lf	1960
Ductile Iron Pipe (FM)	10-in.	8,410	lf	1995
Cast Iron Pipe (FM)	3-in.	230	lf	1987
Cast Iron Pipe (FM)	4-in.	8,110	lf	1973
Cast Iron Pipe (FM)	6-in.	1,380	lf	1956
Cast Iron Pipe (FM)	8-in.	520	lf	1953
Cast Iron Pipe (FM)	10-in.	1,460	lf	1944
Cast Iron Pipe (FM)	12-in.	3,230	lf	1942
Vitrified Clay Pipe	4-in.	30,460	lf	1957
Vitrified Clay Pipe	6-in.	13,760	lf	1955
Vitrified Clay Pipe	8-in.	63,950	lf	1953
Vitrified Clay Pipe	10-in.	9,430	lf	1950
Vitrified Clay Pipe	12-in.	12,970	lf	1952
Vitrified Clay Pipe	15-in.	8,540	lf	1954
Vitrified Clay Pipe	18-in.	2,820	lf	1942

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Concrete Pipe	4-in.	7,498	lf	1957
Concrete Pipe	6-in.	650	lf	1943
Concrete Pipe	8-in.	1,810	lf	1965
Concrete Pipe	10-in.	100	lf	1956
Concrete Pipe	12-in.	640	lf	1949
Concrete Pipe	15-in.	1,750	lf	1942
Concrete Pipe	24-in.	3,620	lf	1957
Concrete Pipe	30-in.	11,295	lf	1943
Manhole, Brick, estimated size	5' ID X 8'D	73	ea	1942
Manhole, Brick, estimated size	5' ID X 8'D	221	ea	1943
Manhole, Brick, estimated size	5' ID X 8'D	23	ea	1953
Manhole, Brick, estimated size	5' ID X 8'D	52	ea	1956
Manhole, Brick, estimated size	5' ID X 8'D	153	ea	1959
Manhole, Brick, estimated size	5' ID X 8'D	3	ea	1974
Manhole, Concrete, estimated size	5' ID X 8'D	9	ea	1980
Manhole, Concrete, estimated size	5' ID X 8'D	38	ea	1986
Manhole, Concrete, estimated size	5' ID X 8'D	8	ea	1990
Manhole, Concrete, estimated size	5' ID X 8'D	2	ea	1991
Manhole, Concrete, estimated size	5' ID X 8'D	150	ea	1995
Air Relief Valve (ARV)	6-in.	15	ea	1994
ARV Manhole	4' ID X 4'	15	ea	1994
Lift Station S-1, Bldg 1555 (Medium)				
Wet well		1	ea	1996
Pumps (150 gpm, 55’ Discharge Head)	3-hp	2	ea	1996
Piping, valves and fittings, controls, and electrical		1	ls	1996

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Lift Station S-2, Entomology (Medium)				
Wet well		1	ea	1988
Pumps (260 gpm, 63' Discharge Head)	12-hp	2	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1993
Lift Station S-3, Marchbanks Drive (Small)				
Wet well		1	ea	1986
Pumps (150 gpm, 27' Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-4, PAV PAWS (Medium)				
Wet well		1	ea	1986
Pumps (100 gpm, 568' Discharge Head)	7.5-hp	2	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1993
Lift Station S-5A, SW side Bldg. 1346 (Small)				
Wet well		1	ea	1996
Pumps (size estimated)	3-hp	2	ea	1996
Piping, valves and fittings, controls, and electrical		1	ls	1996
Lift Station S-7, Firing Range (Small)				
Wet well		1	ea	1984
Pumps (100 gpm, 21' Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-8, Bldg 12 (Large)				
Wet well		1	ea	1960
Pumps (525 gpm, 45' Discharge Head)	24-hp	2	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1993

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Generators, estimated size	250 kW	1	ea	1991
Lift Station S-9, Bldg 10 (Small)				
Wet well		1	ea	1960
Pumps (100 gpm, 21' Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-10, Bldg 9 (Small)				
Wet well		1	ea	1960
Pumps (100 gpm, 26' Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-10A, Bldg 9 (Back) (Small)				
Wet well		1	ea	1976
Pumps (size estimated)	3 hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-11, Bldg 2088 (Small)				
Wet well		1	ea	1960
Pumps (83 gpm, 25' Discharge Head)	3.5-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-11A, Bldg 2090 (Small)				
Wet well		1	ea	1997
Pumps (size estimated)	3-hp	2	ea	1997
Piping, valves and fittings, controls, and electrical		1	ls	1997
Lift Station S-11B, Bldg 2086 (Small)				
Wet well		1	ea	1960
Pumps (size estimated)	3-hp	2	ea	1991

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-11C, Bldg 2068 (Small)				
Wet well		1	ea	1989
Pumps (size estimated)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-11D, Bldg 2067 (Small)				
Wet well		1	ea	1960
Pumps (size estimated)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-12, Bldg 2078 (Medium)				
Wet well		1	ea	1960
Pumps (150 gpm, 21’ Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-12A, Bldg 2083 (Small)				
Wet well		1	ea	2002
Pumps (size estimated)	3-hp	2	ea	2002
Piping, valves and fittings, controls, and electrical		1	ls	2002
Lift Station S-13, Bldg 2030 (Large)				
Wet well		1	ea	1960
Pumps	25-hp	2	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-14, Bldg 318 (Small)				
Wet well		1	ea	1952
Pumps (100 gpm, 20’ Discharge Head)	3-hp	2	ea	1991

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-16, Bldg 149 (Small)				
Wet well		1	ea	1954
Pumps (100 gpm, 21' Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-17, Bldg 20149 (Small)				
Wet well		1	ea	1998
Pumps (50 gpm, 21' Discharge Head)	2-hp	2	ea	1998
Piping, valves and fittings, controls, and electrical		1	ls	1998
Lift Station S-18, Bldg 150 (Small)				
Wet well		1	ea	1944
Pumps (50 gpm, 20' Discharge Head)	1-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-19, Bldg 133 (Large)				
Wet well		1	ea	1950
Pumps (200 gpm, 117' Discharge Head)	40-hp	2	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-20, Bldg 110 (Medium)				
Wet well		1	ea	1950
Pumps (260 gpm, 63' Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-21, Bldg 83 (Large)				
Wet well		1	ea	1993
Pumps (525 gpm, 45' Discharge Head)	10-hp	2	ea	1993

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Piping, valves and fittings, controls, and electrical		1	ls	1993
Lift Station S-22, Bldg 89 (Small)				
Wet well		1	ea	2001
Pumps (100 gpm, 33' Discharge Head)	3-hp	2	ea	2001
Piping, valves and fittings, controls, and electrical		1	ls	2001
Lift Station S-23, Bldg 54 (Medium)				
Wet well		1	ea	1978
Pumps (200 gpm, 20' Discharge Head)	1-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-24, Bldg 55 (Large)				
Wet well		1	ea	1956
Pumps (950 gpm, 37' Discharge Head)	24-hp	2	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1993
Lift Station S-25, Bldg M44-1 (Small)				
Wet well		1	ea	1956
Pumps (50 gpm, 21' Discharge Head)	2-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-26, Bldg 13 (Small)				
Wet well		1	ea	1990
Pumps (50 gpm, 21' Discharge Head)	2-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-27, Bldg 42 (Small)				
Wet well		1	ea	1998
Pumps (60 gpm, 15' Discharge Head)	1/2-hp	2	ea	1998

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Piping, valves and fittings, controls, and electrical		1	ls	1998
Lift Station S-28, Bldg 33 (Small)				
Wet well		1	ea	1960
Pumps (50 gpm, 21' Discharge Head)	1/2-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-29, Bldg 131 (Large)				
Wet well		1	ea	1978
Pumps (1200 gpm, 39' Discharge Head)	35-hp	3	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1993
Generators, estimated size and age	250 kW	1	ea	1993
Lift Station S-30, Bldg 91 (Small)				
Wet well		1	ea	1991
Pumps (50 gpm, 21' Discharge Head)	3.5-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-31, Bldg 207 (Small)				
Wet well		1	ea	1991
Pumps (50 gpm, 21' Discharge Head)	5-hp	2	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1993
Lift Station S-32, Bldg 222 (Small)				
Wet well		1	ea	1987
Pumps (50 gpm, 21' Discharge Head)	3.5-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-33, Westside, Bldg 201 (Small)				
Wet well		1	ea	1987

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Pumps (50 gpm, 21' Discharge Head)	3.5-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-34, Northeast Bldg 255 (Small)				
Wet well		1	ea	1993
Pumps (50 gpm, 21' Discharge Head)	3.5-hp	2	ea	1993
Piping, valves and fittings, controls, and electrical		1	ls	1993
Lift Station S-35, Bldg 797/798 (Small)				
Wet well		1	ea	1969
Pumps (size estimated)	3 hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-36, Bldg 2328 (Small)				
Wet well		1	ea	2000
Pumps	5-hp	2	ea	2000
Piping, valves and fittings, controls, and electrical		1	ls	2000
Lift Station S-37, Bldg 2083 (Small)				
Wet well		1	ea	1960
Pumps	2-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-38, New B-1 side of base (Small)				
Wet well		1	ea	1991
Pumps (size estimated)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-40, Bldg 350 (Small)				
Wet well		1	ea	1957

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Pumps (size estimated)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-41, Bldg 286 (Small)				
Wet well		1	ea	1952
Pumps (size estimated)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
DOMESTIC WTP #1 (3.3 mgd)				
Headworks:				
Process Equipment:				
Grit chamber with screw auger	3.3 mgd	1	ea	2003
Mechanical grinder		1	ea	2003
Exhaust fan	16,000 CFM, 5 hp	1	ea	2003
Flowmeter		1	ea	2003
ISCO sampler		1	ea	2003
Process Structures:				2003
Influent Channel	3' W, 6' D, 50' L	1	ea	2003
Primary Sedimentation Tanks:				
Process Equipment:				
Process equip. and controls (settable solids)	est. 10,125 cf treatment cap.	1	ls	1971
Process equip. and controls (settable solids)	est. 17,875 cf treatment cap.	1	ls	1978
ISCO sampler		1	ea	1978
Process Structures:				
North basins, 8-in. thick walls, 5.5' below ground	450 sf	3	ea	1971
South basins, 8-in. thick walls, 5.5' below ground	588 sf	4	ea	1978
Primary Sludge Pump Building:				

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Building:				
Bldg. 315, brick walls	610 sf	1	ea	1942
Process Equipment:				1971
Sludge pumps	150 gpm, 5-hp	2	ea	1971
Trickling Filters (45,300 cf of media):				
Process Structures:				
Basin, 8-in. thick walls, 5' below ground	45,300 cf of media	1	ea	1971
Low Lift Pump Station (400 gpm):				
Process Equipment:				
Pumps, submersible	10-hp	4	ea	1971
Pumps, submersible	25-hp	1	ea	1971
Pumps, portable centrifugal	10-hp	4	ea	1971
Pumps, submersible	5-hp	4	ea	1971
Exhaust fan	16,000 cfm	1	ea	1971
Exhaust fan	16,000 cfm	1	ea	1971
Mixer	¼-hp	1	ea	1971
Hoist, automatic	1-ton	1	ea	1971
Hoist, hand operated	1,500-lbs	1	ea	1971
Process Structures:				
Wet Well	5,400 cf	1	ea	1971
Secondary Clarifiers (2,375 sf):				
Process Equipment:				
Submersible pumps	10-hp	2	ea	1978
Process Structures:				
Basin	2,375 sf	1	ea	1978
Nitrification Tanks (42,400 cf):				

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Process Structures:				
Basin	42,400 cf	1	ea	1978
Equipment Building:				
Building:				
Bldg. 371, brick walls		2,880	sf	1983
Process Equipment:				
Blowers	2,900 cfm, 125 hp	3	ea	1983
Air compressor with 200 gallon tank	10-hp	1	ea	1983
Chemical pump	33.8 gph, ¾-hp	1	ea	1983
Mixer	½-hp	1	ea	1983
Generator	300 kW	1	ea	2000
Process Structures:				
Tank, steel, UST	5,000 gal	1	ea	1983
Sodium Hydroxide Storage Building:				
Building:				
Building, wood and cmu		30	sf	1983
Process Equipment:				
Sodium hydroxide feed pumps	3/4-hp	1	ea	1983
Air compressor with 200 gallon tank	3-hp	1	ea	1983
Chlorination equipment (includes metering pump)		1	ea	1983
Reuse Pumps	7.5-hp	2	ea	1983
ISCO sampler		1	ea	2003
Sampler		1	ea	1983
Metering pump		1	ea	1983
Process Structures:				
Sodium Hydroxide Storage Tank	500 gal	1	ea	1983
Tertiary Filters:				

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Building:				
Bldg. 370, brick walls		2,438	sf	1983
Process Equipment:				
Pumps, submersible	10-hp	1	ea	1983
Compressor, air drive	3-hp	1	ea	1983
Exhaust fan	4,000 cfm, 1 hp	1	ea	1983
Hoist, automatic	1-ton	1	ea	1983
Chemical metering pump	¾-hp	1	ea	1983
Isco sampler		1	ea	1983
Process Structures:				
Filters	175 cf of sand	4	ea	1983
Disinfection System:				
Process Equipment:				
UV treatment system, 24 lamp system	3.6 mgd cap	2	ea	1993
Pump, centrifugal	5-hp	1	ea	1993
Aerator/mixer	2-hp	1	ea	1993
ISCO sampler		2	ea	1993
Process Structures:				
Contact basin	30' X 50' X 2'	3,000	cf	1971
Effluent Pumping Station:				
Building:				
Bldg. 3869, brick walls		1,900	sf	1993
Process Equipment:				
Pumps	5,000 gpm, 200-hp	3	ea	2003
Meter, Parshall flume	12-in throat, 0-6 mgd	1	ea	1993
Meter, turbine	12-in	1	ea	2003
Automatic Sampler (ISCO)		1	ea	1993
Meter, turbine (for Tank 164)	8-in.	1	ea	1993

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Sump pump	1/2 hp	1	ea	1993
Hoist, manual, chain	3-ton	1	ea	1993
Generator, transfer switch and fuel tank (1000gal)	450 kW	1	ea	1993
Process Structures:				
Wet well	20' X 12' X 20'	4,800	cf	1993
Anaerobic Digesters:				
Process Equipment:				
Air compressor with air dryer and 80 gal. tank		1	ea	1971
Pump, recirculating	5-hp	2	ea	1971
Sump pump	5-hp	1	ea	1971
Pump, submersible	3-hp	2	ea	1971
Pump, centrifugal (4-cylinder)	3-hp	2	ea	1971
Boiler unit		1	ea	1971
Process Structures:				
Primary Digester	6,210 cf	1	ea	1971
Secondary Digester	3,240 cf	1	ea	1971
Sludge Drying Beds:				
Process Structures:				1971
Drying beds, natural drainage	2125 cf	2	ea	1971
Drying beds, vacuum assist.	760 cf	2	ea	1971
Canopy, steel frame, fiberglass panels	8,200 sf	1	ea	1971
Aerobic Digesters:				
Process Structures:				
Digesters	2,565 cf	3	ea	1978
Facilities:				
Building:				

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Admin/Lab (BLDG 322)		1,439	sf	1987
Break room (BLDG 342)		600	sf	1986
Shed, storage (BLDG 200)		320	sf	1975
HOUSING				
Vitrified Clay Pipe	4-in.	17,400	lf	1957
Vitrified Clay Pipe	6-in.	6,980	lf	1955
Vitrified Clay Pipe	8-in.	26,980	lf	1953
Vitrified Clay Pipe	10-in.	2,180	lf	1950
Vitrified Clay Pipe	12-in.	3,640	lf	1952
Vitrified Clay Pipe	15-in.	8,540	lf	1954
Vitrified Clay Pipe	18-in.	2,140	lf	1942
Concrete Pipe	8-in.	390	lf	1965
Concrete Pipe	10-in.	170	lf	1956
Concrete Pipe	12-in.	280	lf	1949
Cast Iron Pipe (FM)	4-in.	1,180	lf	1973
Manhole, Brick, estimated size	5' ID X 8'D	3	ea	1942
Manhole, Brick, estimated size	5' ID X 8'D	5	ea	1956
Manhole, Brick, estimated size	5' ID X 8'D	125	ea	1959
Manhole, Concrete, estimated size	5' ID X 8'D	36	ea	1986
Manhole, Concrete, estimated size	5' ID X 8'D	36	ea	1995
Lift Station S-5, Turner Park (Small)				
Wet well		1	ea	1996
Pumps (100 gpm, 19’ Discharge Head)	5-hp	2	ea	1996
Piping, valves and fittings, controls, and electrical		1	ls	1996

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Lift Station S-6, Enlisted Housing (Medium)				
Wet well		1	ea	1959
Pumps (175 gpm, 27' Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
Lift Station S-15, Bldg 441 (Small)				
Wet well		1	ea	1959
Pumps (100 gpm, 20' Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ls	1991
DOMESTIC WTP #2				
Headworks:				
Building:				
Bldg. 810	876 sq ft	1	ea	1943
Process Equipment:				
Bar screen and conveyor		1	ea	2003
Submersible pump	10 HP	1	ea	1983
Submersible pump	5 HP	2	ea	1983
Submersible pump	14 HP	1	ea	1983
Exhaust fan	4,000 CFM, 1 HP	1	ea	1983
Exhaust fan	16,000 CFM, 5 HP	1	ea	1983
Mixer		1	ea	1983
Process Structures:				1943
Influent channel	3' W, 6' D, 50' L	1	ea	1943
Holding tank		1	ea	1943
Anaerobic digestor		1	ea	1943
Pump Station:				
Building:				

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Bldg. 812	820 sq ft	1	ea	1983
Fencing, chain link		450	lf	1983
Process Equipment:				
Pumps	20 HP	3	ea	1983
Piping, valves and fittings, controls, and elec.		1	ls	1983
Generator	230 kW	1	ea	1983
Tank, diesel fuel	500 gal	1	ea	1983
Process Structures:				1943
Wet Well		1	ea	1943
Sludge Drying Beds:				
Process Equipment:				
Process equip. and controls (3,500 sf area cap.)		1	ls	1943
Process Structures:				1943
Drying beds	14 @ 25' X 80' X 1'	28,000	sf	1943
Canopy	21,000 sq ft	1	ea	1971
Biological Plant:				
Building:				
Bldg. 317		1,200	sf	1997
Process Equipment:				1996
Exhaust fans	16,000 cfm, 5-hp	3	ea	1997
Polymer feed system		1	ea	1997
Centrifuge		1	ea	2003
Mixer		1	ea	1997
Pump, centrifugal	10-hp	6	ea	1997
Pump, centrifugal, decant pump	1-hp	2	ea	1997
Pump, centrifugal	20-hp	6	ea	1997
Pump, centrifugal	5-hp	6	ea	1997
Pump, centrifugal	1.5-hp	4	ea	1997

TABLE 1A
Fixed Inventory – Domestic Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Pump, submersible	10-hp	4	ea	1997
Process Structures:				1997
Tank, steel	400,000 gal	1	ea	1997
Tank, steel, aerated	500,000 gal	2	ea	1997
Tank, steel, digester		2	ea	1997
Carbon filter tower		4	ea	1997
Clarifiers		2	ea	1997

Notes:

Units: cf = cubic feet, cfm = cubic feet per minute, cy = cubic yards, dia = diameter, ea = each, ft = feet, gl= gallon, gpd = gallons per day, gph = gallons per hour, gpm = gallons per minute, hp = horsepower, lf = linear foot, ls = lump sum, mgd = million gallons per day, PVC = polyvinyl chloride FM = forced mains, sf = square feet.

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
PVC Pipe	2-in.	2,710	lf	1995
PVC Pipe	4-in.	450	lf	1982
PVC Pipe	6-in.	150	lf	1983
PVC Pipe	8-in.	670	lf	1988
PVC Pipe	12-in.	930	lf	1991
PVC Pipe (FM)	2-in.	350	lf	1953
PVC Pipe (FM)	4-in.	3,380	lf	1982
PVC Pipe (FM)	6-in.	260	lf	1983
PVC Pipe (FM)	8-in.	4,164	lf	1983
PVC Pipe (FM)	10-in.	2,220	lf	1995

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Ductile Iron Pipe (FM)	8-in.	7,770	lf	1995
Cast Iron Pipe	3-in.	120	lf	1995
Cast Iron Pipe	4-in.	2,215	lf	1987
Cast Iron Pipe	6-in.	2,030	lf	1989
Cast Iron Pipe	8-in.	3,450	lf	1964
Cast Iron Pipe	18-in.	340	lf	1983
Cast Iron Pipe (FM)	4-in.	2,420	lf	1983
Cast Iron Pipe (FM)	6-in.	310	lf	1984
Cast Iron Pipe (FM)	8-in.	11,760	lf	1992
Asbestos Concrete Pipe (FM)	5-in.	1,880	lf	1983
Asbestos Concrete Pipe (FM)	8-in.	970	lf	1983
Vitrified Clay Pipe	6-in.	5,130	lf	1953
Vitrified Clay Pipe	8-in.	6,140	lf	1944
Vitrified Clay Pipe	10-in.	1,750	lf	1943
Vitrified Clay Pipe	12-in.	220	lf	1943
Vitrified Clay Pipe	15-in.	300	lf	1943
Vitrified Clay Pipe (FM)	5-in.	480	lf	1983
Concrete Pipe	6-in.	140	lf	1978
Concrete Pipe	30-in.	1,291	lf	1995
Cast Iron Gate Valve	4-in.	3	ea	1982
Cast Iron Gate Valve	6-in.	2	ea	1983
Cast Iron Gate Valve	8-in.	4	ea	1983

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Manhole, Brick, estimated size	5' ID X 8'D	7	ea	1942
Manhole, Brick, estimated size	5' ID X 8'D	88	ea	1943
Manhole, Brick, estimated size	5' ID X 8'D	3	ea	1953
Manhole, Brick, estimated size	5' ID X 8'D	5	ea	1956
Manhole, Brick, estimated size	5' ID X 8'D	13	ea	1959
Manhole, Brick, estimated size	5' ID X 8'D	2	ea	1973
Manhole, Concrete, estimated size	5' ID X 8'D	13	ea	1980
Manhole, Concrete, estimated size	5' ID X 8'D	1	ea	1992
Manhole, Concrete, estimated size	5' ID X 8'D	65	ea	1995
Industrial Lift/Pump Station				
Lift Station I-1, Fire Train Pit (Large)				
Wet well	20'x12'x10'	1	ea	1971
Pumps		2	ea	1971
Piping, valves and fittings, controls, and electrical		1	ea	1971
Lift Station I-2, Apron Area (2063) (Medium)				
Wet well	4' dia.x15'	1	ea	2000
Pumps (80 gpm, 18' Discharge Head)	3-hp	1	ea	2000
Piping, valves and fittings, controls, and electrical		1	ea	2000
Lift Station I-3, Building 2030 (Large)				
Wet well	6' dia, x 20'	1	ea	1998
Pumps (525 gpm, 45' Discharge Head)	20-hp	2	ea	1998
Piping, valves and fittings, controls, and electrical		1	ea	1998
Lift Station I-4, Building 150 (Medium)				
Wet well	7' dia. x 13'	1	ea	1944
Pumps (175 gpm, 76' Discharge Head), est. age	10-hp	2	ea	1995

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Piping, valves and fittings, controls, and electrical, est. age		1	ea	1995
Lift Station I-5, Building 89 (Large)				
Wet well	7’ x 7’ x 7’	1	ea	1967
Pumps (525 gpm, 45’ Discharge Head) , est. age	12-hp	2	ea	1995
Piping, valves and fittings, controls, and electrical, est. age		1	ea	1995
Lift Station I-6, Building 54 (Medium)				
Wet well	20’ x 18’ x 20’	1	ea	1978
Pumps (175 gpm, 76’ Discharge Head)	12-hp	2	ea	1978
Piping, valves and fittings, controls, and electrical		1	ea	1978
Lift Station I-7, Building 45 (Medium)				
Wet well	6’ dia. x 12’	1	ea	1955
Pumps (100 gpm, 34’ Discharge Head), est. age	4-hp	2	ea	1995
Piping, valves and fittings, controls, and electrical, est. age		1	ea	1995
Lift Station I-8, Building 323 (Medium)				
Wet well	7’ dia. x 12’	1	ea	1942
Pumps (160 gpm, 16’ Discharge Head)	3-hp	2	ea	1991
Piping, valves and fittings, controls, and electrical		1	ea	1991
Lift Station I-9, Building 230 (Large)				
Wet well	8’ dia. x 17’	1	ea	1952
Pumps (350 gpm, 34’ Discharge Head) , est. age	5.4-hp	2	ea	1995
Piping, valves and fittings, controls, and electrical, est. age		1	ea	1995
Lift Station I-10, Building 286 (Medium)				

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Wet well	8’ x 8’ x 15’	1	ea	1952
Pumps (175 gpm, 76’ Discharge Head) , est. age	12-hp	2	ea	1995
Piping, valves and fittings, controls, and electrical, est. age		1	ea	1995
Lift Station I-11, Page Rd (Bldg. 608) (Large)				
Wet well	8’ x 8’ x 14’	1	ea	1942
Pumps (1350 gpm, 126’ Discharge Head), est. age	20-hp	2	ea	1995
Piping, valves and fittings, controls, and electrical, est. age		1	ea	1995
Lift Station I-12, Building 647 (Medium)				
Wet well	8’ x 8’ x 10’	1	ea	1953
Pumps (100 gpm, 35’ Discharge Head)	4-hp	2	ea	1996
Piping, valves and fittings, controls, and electrical		1	ea	1996
Lift Station I-13, Building 2076 (Small)				
Wet well	5’ dia. x 8’	1	ea	1960
Pumps (10 gpm, 54’ Discharge Head) , est. age	1.5-hp	2	ea	1995
Piping, valves and fittings, controls, and electrical, est. age		1	ea	1995
Lift Station I-14, Building 645 (Small)				
Wet well	3’ dia. x 6’	1	ea	1953
Pumps, est. age	2-hp	2	ea	1995
Piping, valves and fittings, controls, and electrical, est. age		1	ea	1995
Lift Station I-15, Building 645 (Small)				
Wet well		1	ea	1953
Pumps	3-hp	2	ea	1999
Piping, valves and fittings, controls, and electrical		1	ea	1999

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Lift Station I-16, Building 2312 (Medium)				
Wet well	7’ dia. x 15’	1	ea	2000
Pumps	3-hp	2	ea	2000
Piping, valves and fittings, controls, and electrical		1	ea	2000
Lift Station I-16A, Building 2304 (Small)				
Wet well	8’ dia. x 8’	1	ea	2000
Pumps	2-hp	2	ea	2000
Piping, valves and fittings, controls, and electrical		1	ea	2000
Lift Station I-16B, Building 2328 (Small)				
Wet well	7’ dia. x 16’	1	ea	2000
Pumps	3-hp	2	ea	2000
Piping, valves and fittings, controls, and electrical		1	ea	2000
Lift Station I-16C, Building 2312 (Small)				
Wet well	5’ dia. x 8’	1	ea	2000
Pumps	2-hp	2	ea	2000
Piping, valves and fittings, controls, and electrical		1	ea	2000
Lift Station I-16D, Building 2328 (Small)				
Wet well	7’ dia. x 30’	1	ea	2000
Pumps	2-hp	2	ea	2000
Piping, valves and fittings, controls, and electrical		1	ea	2000
Lift Station I-16E, B-1 Apron (Small)				
Wet well	7’ dia. x 30’	1	ea	2000
Pumps	4-hp	2	ea	2000
Piping, valves and fittings, controls, and electrical		1	ea	2000

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Lift Station I-17, Gas Station 13 (Small)				
Wet well	7’ dia. x 17’	1	ea	1990
Pumps	2-hp	2	ea	1990
Piping, valves and fittings, controls, and electrical		1	ea	1990
Lift Station I-18, Building 359 (Medium)				
Wet well	42’ x 22’ x 9’	1	ea	1996
Pumps	5-hp	2	ea	1996
Piping, valves and fittings, controls, and electrical		1	ea	1996
Lift Station I-19, IWTP No. 2 (Large)				
Wet well	7’ dia. x 14’	1	ea	1983
Pumps (660 gpm, 45’ Discharge Head)	5-hp	2	ea	2003
Piping, valves and fittings, controls, and electrical		1	ea	1983
Lift Station I-20, Building 321 (Medium)				
Wet well	7’ dia. x 14’	1	ea	2002
Pumps	3-hp	2	ea	2002
Piping, valves and fittings, controls, and electrical		1	ea	2002
Air Release Valve		13	ea	1995
ARV Manhole		13	ea	1995
INDUSTRIAL WTP #1 (1 mgd):				
Influent Pumping Station				
Building:				
Bldg 187	154 sf	1	ea	1983
Process Equipment:				
Grinders	3-hp	2	ea	1964

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Influent pumps	750 gpm, 15-hp	3	ea	1964
Generator	300 kW	1	ea	1983
Process Structures:				
Tank, steel, UST	1,500 gal	1	ea	1983
Wet well		1	ea	1964
Grit Chamber/Influent Screening:				
Building:				
Building	540 sf	1	ea	2003
Process Equipment:				
Grit removal system (rotating drum)	56-in. dia	1	ea	2003
Static screen	4' wide	2	ea	1964
Equalization Basin (Oil Removal/Separator):				
Process Structures:				
Oil skim tank	32,000 gal	1	ea	2003
Retention Basins:				
Process Structures:				
Basins	360,000 gal	2	ea	1964
Chrome Reduction System:				
Process Equipment:				
Transfer pumps	450 gpm, 10-hp	2	ea	2003
Tank mixers, submerged turbine	1-hp	2	ea	2003
Sodium bisulfide feed pumps	19 gph, 0.16-hp	2	ea	2001
Polymer feed system		1	ea	2003
Process Structures:				
Tank, Steel	5,250 gal	2	ea	2003

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Coagulation System:				
Process Equipment:				
Transfer pumps	450 gal, 10-hp	2	ea	2003
Tank mixers, submerged turbine	1-hp	2	ea	2003
Sodium hydroxide feed pumps	19.8 gph, 0.16-hp	2	ea	2002
Process Structures:				
Tank, Steel	5,250 gal	2	ea	2003
Settling Tanks:				
Process Structures:				
Settling tanks, steel	72,500 gal	2	ea	1964
Holding Tanks:				
Process Equipment:				
Transfer pumps	300-600 gpm, 10-hp	4	ea	1964
Process Structures:		1	ea	1996
Holding tanks, 120,000 gal	120,000 gal	1	ea	1964
Holding tanks, 120,000 gal	120,000 gal	1	ea	1996
Sludge Thickener:				
Process Equipment:				
Sludge thickener collector mechanism	0.5-hp	1	ea	2003
Transfer pumps	300 gal, 15-hp	2	ea	2003
Process Structures:				
Tank, steel	15,000 gal	1	ea	1964
Chemical Building No. 1:				
Building:				
Building	700 sf	1	ea	1964
Process Equipment:				

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Feed pumps	23 gph, 1/3-hp	1	ea	1964
Polymer mixers	0.65-hp	2	ea	1964
Feed Pumps	24 gph, 1/6-hp	2	ea	1964
Process Structures:				
Polymer day tank, fiberglass	132 gal	4	ea	1964
Solids Handling Facilities:				
Building:				
Bldg 352, CMU w/sheet metal roof, steel frame and 2 Heat Pumps	28,444 sf	1	ea	1996
Process Equipment:				
Sludge feed pumps	25-hp	2	ea	1999
Sludge feed pumps	15-hp	1	ea	2003
Sludge feed pumps	15-hp	1	ea	2003
Sludge feed pumps	15-hp	1	ea	1996
Sludge feed pumps	15-hp	1	ea	1996
Submersible pump	5-hp	2	ea	2003
Submersible pump	7.5-hp	2	ea	1999
Sump pump	5-hp	2	ea	2003
Centrifugal filtrate pump	3-hp	2	ea	1996
Centrifugal pre-coat pump	5-hp	2	ea	1999
Hydraulic filter press pump	10-hp	1	ea	1999
Air pumps	5-hp	2	ea	1996
Filter Press	40-plate	1	ls	2003
Filter Press	40-plate	1	ls	1999
Filter Press, J type	50-plate	1	ls	1996
Air compressor, w/120 gal tank and air dryer	25-hp	1	ea	2003
Air compressor, w/120 gal tank and air dryer	25-hp	1	ea	1999
Air compressor, w/120 gal tank and air dryer	25-hp	2	ea	1996
Belt driven conveyor		1	ea	2003

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Chain driven conveyor	2-hp	1	ea	1996
Process Structures:				
Storage Tank, steel	80,000 gal	1	ea	1999
Feed Tank, steel	20,000 gal	1	ea	1996
Feed Tank, steel	12,000 gal	1	ea	1999
Feed Tank, fiberglass	2,000 gal	1	ea	1996
Pre-coat Tank, steel	480 gal	1	ea	1999
Filtrate collection Tank, steel	12,000 gal	1	ea	1999
INDUSTRIAL WTP #2 (1 mgd):				
Chrome Basin:				
Process Equipment:				
Tank mixers, submerged turbine	10-hp	1	ea	1983
Process Structures:				
Tank, conc.	21,500 gal	1	ea	1983
Chrome (former Cyanide) Basin:				
Process Equipment:				
Tank mixers, submerged turbine	10-hp	1	ea	1983
Transfer pumps	5-hp	1	ea	1983
Process Structures:				
Tank, conc.	76,300 gal	1	ea	1983
Acid/Alkali Basin:				
Process Equipment:				
Tank mixers, submerged turbine	10-hp	1	ea	2000
Transfer pumps, submersible	5-hp	1	ea	2000
Process Structures:				
Tank, conc.	54,750 gal	1	ea	1983

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Acid Alkali:				
Process Equipment:				
Tank mixers, submerged turbine	2-hp	1	ea	2000
Transfer pumps, submersible	5-hp	1	ea	2000
Process Structures:				
Tank, conc.	20,850 gal	1	ea	1983
Acid Alkali:				
Process Equipment:				
Tank mixers, submerged turbine	2-hp	1	ea	2000
Process Structures:				
Tank, conc.	8,650 gal	15	cy	1983
Chrome Reduction Tank:				
Process Equipment:				
Transfer pumps	5-hp	1	ea	2003
Process Structures:				
Tank, Steel	1,500 gal	2	ea	1983
Flash Mix Tank:				
Process Equipment:				
Transfer pumps, submersible	7.5-hp	2	ea	2001
Process Structures:				
Tank, Steel	3,500 gal	1	ea	1983
Settling Tank:				
Process Equipment:				
Sludge collector	2-hp	1	ea	1983
Sludge pumps	2-hp	2	ea	1983
Process Structures:				

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Tank, Steel	63,415 gal	1	ea	1983
Neutralization Tank:				
Process Equipment:				
Transfer pumps, submersible	7.5-hp	2	ea	1983
Process Structures:				
Tank, steel	1,000 gal	1	ea	1983
Plant Effluent Pumping Station:				
Process Equipment:				
Transfer pumps	350 gal, 5-hp	2	ea	1983
Process Structures:				
Wet Well		1	ea	1983
Chemical Building No. 2:				
Building:				
Building	350 sf	1	ea	1983
Process Equipment:				
Feed pumps	23 gph, 1/3-hp	1	ea	1983
Feed pumps	24 gph, 1/6-hp	2	ea	1983
Ferrous sulfate mixer	0.65-hp	1	ea	1983
Process Structures:				
Ferrous sulfate day tank, stainless steel	525 gal	1	ea	1983
Dilution tank, plastic	300 gal	1	ea	1983
Ferrous Sulfate System:				
Process Equipment:				
Feed pumps	24 gph, 1/4-hp	2	ea	2002
Transfer pumps	2-hp	2	ea	1983
Process Structures:				

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction
Ferrous sulfate storage tank, steel	8,500 gal	1	ea	1983
Dilution tank, stainless steel	300 gal	1	ea	1983
Caustic Soda System:				
Process Equipment:				
Transfer pumps	2-hp	2	ea	1983
Feed pumps	4 gph, 1/4-hp	4	ea	1983
Process Structures:				
Caustic soda storage tanks, fiberglass	5,500 gal	1	ea	1996
Sulfuric Acid System:				
Process Equipment:				
Feed pumps	19.5 gph, 1/4-hp	2	ea	1983
Process Structures:				
Sulfuric acid storage tank, plastic	6,000 gal	1	ea	2001
Sodium Bisulfite System:				
Process Equipment:				
Feed pumps	19 gph, 0.16-hp	4	ea	2001
Recirculation pumps	3/4-hp	1	ea	2001
Polymer Feed System		1	ea	2003
Process Structures:				
Sodium bisulfite storage tank	6,000 gal	1	ea	2001
Discharge Monitoring:				
Process Equipment:				
Automatic sampler (ISCO)		1	ea	1983
Ultrasonic open channel flow meter		1	ea	2003

TABLE 1B
Fixed Inventory – Industrial Wastewater System
Wastewater System Robins AFB

Component	Size	Approximate Quantity	Unit	Approximate Year of Construction

Notes:

Units: cf = cubic feet, cfm = cubic feet per minute, cy = cubic yards, dia = diameter, ea = each, ft = feet, gl= gallon, gpd = gallons per day, gph = gallons per hour, gpm = gallons per minute, hp = horsepower, lf = linear foot, ls = lump sum, mgd = million gallons per day, PVC = polyvinyl chloride FM = forced mains, sf = square feet.

J4.2.2 Wastewater System Non-Fixed Equipment and Specialized Tools

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

TABLE 2
Spare Parts
Wastewater System Robins AFB

Qty	Item	Make/Model	Description	Remarks
There are no spare parts included with the system to be privatized				

TABLE 3
Specialized Vehicles and Tools
Wastewater System Robins AFB

Qty	Item	Make/Model	Description	Remarks
There are no specialized vehicles or tools included with the system to be privatized				

J4.2.3 Wastewater Systems Manuals, Drawings, and Records

Table 4 provides a listing of manuals drawings, and records that will be transferred with the system.

TABLE 4
Manuals, Drawings, and Records
Wastewater System Robins AFB

Qty	Item	Description	Remarks

TABLE 4
Manuals, Drawings, and Records
Wastewater System Robins AFB

Qty	Item	Description	Remarks
1 set	Drawings	Base Comprehensive Plan G-Tab for the Wastewater System, 1:200 scale drawings, one for each Base Map Grid, dated 30 April 2001.	
1 set	Drawings	Base Comprehensive Plan G-Tab for the Industrial Wastewater System, 1:200 scale drawings, one for each Base Map Grid, dated 30 April 2001.	
1 set	Drawings	Base Comprehensive Plan G-Tab for Cathodic Protection Systems, 1:200 scale drawings, one for each Base Map Grid, dated 30 April 2001	
	O&M Manuals	Domestic Wastewater Lift Stations	Available on CD
	O&M Manuals	Industrial Wastewater Lift Stations	Available on CD
	O&M Manuals	Domestic Wastewater Treatment Plant	Available on CD
	O&M Manuals	Industrial Waste Treatment Plant	Available on CD
	Other	Inspection logs, contingency plans, procedures, construction and architectural standards will be made available for copy, to the Contractor.	
	Equipment Manuals	Where available, manuals for installed equipment will be transferred with the system.	

J4.3 Specific Service Requirements

The service requirements for the Robins AFB's wastewater system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Robins AFB wastewater system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- IAW Paragraph C.5.1.3, Roads are not to be cut without permission of Base Civil Engineer, Chief Engineering Division or higher. The standard is to bore or jack conduits and pipes under roads versus cutting the pavement. Jack and bore is the preferred method for provision of new utility lines under existing pavement. However, consideration will be given to cutting existing pavement and trenching during the building of the project requirements/project programming; especially for Military Family housing. The Execution method determined during the Design Phase must also consider project cost impacts, age and condition of existing pavement, mission

impacts/cost avoidance, urgency of need, weather, and land ownership of areas which border Air Force property (e.g., School Zone, etc).

- The Government shall retain ownership of the sensors, communications, and other equipment associated with the SCADA system. The SCADA system may be used by the Government to monitor wastewater facilities. The Government will maintain the sensors, antennas, and other communications, and associated ancillary equipment. Contractor may purchase, install, operate, and maintain a SCADA system.
- The Contractor shall perform all excavations at IWTP No. 1 and 2 (area as defined by the ROW) in accordance with Occupational, Safety and Health Administration Hazardous Waste Operator (OSHA HAZWOPER) requirements. All excavations in these areas shall be accomplished in accordance with the Base Excavation Plan.
- Hazardous waste (sludge) generated from the Domestic and Industrial Wastewater Treatment Plants and Groundwater Treatment Plant must be managed and disposed of in accordance with applicable federal, state and local laws as well as Air Force Operating Instruction 32-7042, Solid and Hazardous Waste Compliance, and shall not be disposed of on Robins AFB. The contractor shall dispose of Robins AFB-generated hazardous waste through the Defense Reutilization Management Office (DRMO) unless the government approves a waiver to this requirement. In the event the contractor submits a waiver request, he shall continue to dispose of hazardous waste through the DRMO while the waiver is being processed. Waiver processing time and/or waiver disapproval shall not entitle the contractor to equitable adjustment.
- The contractor shall contact the DRMO early in the proposal process and shall address hazardous waste disposal in the Quality Management Plan. In order to dispose of hazardous waste through DRMO, the contractor is required to obtain a Department of Defense Activity Address Code (DODAAC) and an account with the Defense Reutilization and Marketing Service. The contractor shall also obtain a fund code through of the organization administering the contract. These actions shall be accomplished prior to starting contract performance. The Contractor will then provide the DODAAC and fund code information to the local DRMO for account activation through DRMS-Battle Creek. When requesting containers for hazardous waste accumulation, the Contractor will present the activated DODAAC and fund code to WR-ALC/EMOH for input to the Hazardous Materials Management System (HMMS) for funds tracking and billing purposes.
- The Contractor is responsible for providing and maintaining fuel used by backup generators included with the wastewater system being privatized.
- The Contractor shall enter into a Memorandum of Understanding (MOU) with Robins AFB pertaining to the no-fee continued use of the outflow pipe system. Robins AFB will be allowed to continue using the outflow pipe system for the disposal of its treated groundwater. Groundwater destined for commingling will be sampled/tested prior to mingling. The pipe is currently in use to discharge treated water into the Ocmulgee River. The MOU shall be completed during the transition period and a copy provided to the Contracting Officer.

- The Contractor shall provide wastewater treatment as a part of the wastewater service. Treatment shall be in accordance with applicable federal, state, and local rules, regulations and permits. The Contractor shall provide the Contracting Officer with a copy of any and all testing information and reports related to the wastewater system that are submitted to any agency. The Contractor shall provide copies to the Government concurrently with submittal to any agency.
- The Contractor shall maintain and operate the cathodic protection systems for the wastewater treatment facilities, lift stations, and piping. Minimum testing, monitoring and maintenance standards for cathodic protection shall be according to National Association of Corrosion Engineers (NACE) standards. This will be performed by a NACE certified technician.
- The Contractor shall prepare an annual report documenting the condition of the cathodic protection system in accordance with NACE standards for treatment plant components. A copy of the report shall be provided to the Contracting Officer, or other representative(s) as designated by the Contracting Officer. Annual reports shall be provided by the 30th day of each year for the previous year.
- The Contractor shall test and maintain the emergency generators included with the treatment plants. Minimum testing and maintenance levels are defined by manufacturer standards or Robins AFB Maintenance Action Sheet No. 107, and the more stringent requirement shall be used.
- The Contractor shall operate and maintain the Domestic Wastewater Treatment Plant with an adequate number of on-site personnel 24 hours a day, 7 days a week. On-site personnel shall be certified/licensed in accordance with applicable state and federal laws and regulations.
- The Contractor shall operate and maintain the Industrial Wastewater Treatment Plant (IWTP No. 1 and IWTP No. 2) with an adequate number of on-site personnel 24 hours a day, Monday through Friday, and from 2400L Friday until 1600L on Saturdays. On-site personnel shall be certified/licensed in accordance with applicable with state and federal laws and regulations. In the event of mission requirements the Contractor shall provide sufficient personnel to operate and maintain plant operations on the remainder of the Saturday shift and on Sundays and Holidays.
- In accordance with the State of Georgia requirements and the ROW, all cleanouts installed by the contractor of wastewater collection piping shall be two-way cleanouts.
- In the event of permit exceedance, the Contractor shall submit a verbal report within 24 hours and a written report within 5 working days of the exceedance to the Contracting Officer, or other representative(s) as designated by the Contracting Officer. The report will be prepared in the format required by the State . Report shall include a description of the discharge and cause of noncompliance; and the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time to noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge. Copies of the exceedence reports shall be submitted to:

  (a) WR-ALC/PKOS, 235 Byron Street, Robins AFB, GA 31098-1611,

(b) 78CES/CEAE, 775 Macon Street, Robins AFB, GA 31098-2077, and

(c) WR-ALC/EMQ, 455 Byron Street, Suite 465, Robins AFB, GA 31098-1860

- Contractor shall follow all requirements in the Robins AFB Storm Water Pollution Prevention Plan including the provision and maintenance of appropriate spill response equipment for all chemicals stored by the contractor.
- In accordance with Paragraph C.9, Coordination of Work, the Contractor shall coordinate planned outages using the Civil Engineer Outage Form.
- In accordance with Condition C of Attachment 1 to the ROW, the Contractor shall follow the Base digging permit process. The Contractor shall obtain all necessary authorizations, permits and line locates prior to performing any excavations on Base.
- In addition to Section 8 of the ROW, the utility contractor (grantee) shall repair at no cost to the Government any utilities improperly marked by the contractor and subsequently damaged as a result of the incorrect marking by other contractors or Government organizations working in the area. Property damaged by the contractor in the conduct of his business shall be corrected in accordance with ROW section 8.
- The Contractor shall support the Base digging permit process by routinely accepting and promptly processing digging permit requests which may impact on the integrity of the Contractor's utility system and/or the safety of the requestors. The Contractor shall be a participant of the Base digging permit process and shall attend any meetings called in support of the process. Contractor shall be responsible to locate and mark their utilities in the affected areas. The digging permit process involves weekly attendance at the scheduled meeting and subsequent appointments for location and marking of utilities throughout the week.
- The Contractor shall comply with the Robins AFB Excavation Plan for the Industrial Area. The Contractor shall be knowledgeable of and in compliance with the Plan's requirements at all stages of any excavation in the areas covered by the Plan.
- In accordance with Section 12 of the ROW, the Contractor is responsible for all supporting utilities that may be required to own, operate and maintain the utility system being privatized. For example, electricity is needed to power substation lighting. Supporting utilities are defined as the supply of electricity, natural gas, water, or wastewater collection, and any infrastructure or materials necessary to connect to the supply of electricity, natural gas, water, or wastewater collection. The Contractor shall coordinate with the Robins AFB Civil Engineer and the Contracting Officer for any supporting utilities to be provided by the Government.
- The Contractor shall enter into a Memorandum of Understanding (MOU) with the Base Fire Department for fire protection of all facilities included in the purchase of the utility. The MOU shall be completed during the transition period and a copy provided to the Contracting Officer.
- The Contractor shall abide by Base fire protection requirements. The utility system purchased by the Contractor includes facilities. These facilities may or may not include fire alarm systems. Where required by federal, state or local regulation, the Contractor

shall maintain the fire alarm system for all facilities owned and operated by the Contractor. The Contractor shall permit Fire Department personnel access to their facilities to perform fire inspections and emergency response.

- In accordance with Paragraph C.9.8, Exercises and Crisis Situations Requiring Utility Support, the Contractor shall provide support as directed by Base Civil Engineer Control Center for exercises and crisis situations.
- The Contractor shall ensure that employees understand, implement and enforce Force Protection Condition (FPCON) requirements specified in AFI 10-245. The Contractor is advised that FORCE PROTECTION conditions vary and that these changes may cause delays in access to Robins AFB. These conditions are outlined in the Robins AFB FPCON Checklist. This checklist will be available in the technical library. The Contractor will plan accordingly to provide uninterrupted support. Compliance with and staffing in support of FORCE PROTECTION condition changes shall not result in service charge adjustments to the contract.
- In accordance with Section 8 of the ROW, the Contractor shall maintain existing security mechanisms (i.e. locks, fences) to protect the utility systems. The security mechanisms should prevent tampering and sabotage. Should the Contractor become aware of any suspicious incident, security breach or act of sabotage at or against the utility system, or any of its associated facilities, they will immediately contact the 78th Security Police Squadron and 78th Civil Engineer Squadron.
- Due to heightened security concerns on military installations, all Contractor and subcontractor personnel who must enter Robins AFB to perform this contract must undergo a background check. Background checks will be conducted using the following information: name, drivers license number, social security number, and date of birth. These procedures are considered permanent. Any Contractor or subcontractor employee that does not consent to this background investigation will not be allowed access to Robins AFB. Additionally, access to RAFB is governed by specific procedures contained in RAFB SFOI 31-8, this operating instruction has specific instructions on how employees are to be granted access to RAFB. This document will be available for review in the technical library. Any derogatory information resulting from the investigation, or which otherwise becomes known to the contracting officer, may also result in such individuals being prevented from entering the installation. However, nothing in this requirement shall excuse the Contractor from proceeding with any resulting contract as required.
- The Contractor shall ensure their employees, and those of their subcontractors, have the proper credentials allowing them to work in the United States. Employees must have valid Social Security Cards. Non-US Citizens must have current and valid permission from the Bureau of Immigration and Naturalization. Persons found to be undocumented or illegal aliens will be remanded to the proper authorities. The Contractor shall not be entitled to any compensation for delays or expenses associated with complying with the provisions of this requirement. Contractor personnel and their subcontractors must identify themselves as Contractors or subcontractors during meetings, telephone conversations, in electronic messages, or correspondence related to this contract. Contractor occupied facilities on Robins AFB such as offices, separate rooms, or cubicles

must be clearly identified with Contractor-supplied signs, name plates or other identification, showing that these are work areas for Contractor or subcontractor personnel.

- Material Deliveries: All Contractor and subcontractor deliveries to Robins AFB shall be made using Gate 4 (Truck Gate). Deliveries made when Gate 4 is not open shall be coordinated in advance with the Security Police Forces. To gain entry, the driver must have a valid drivers license rated for the vehicle being driven, proof of insurance, social security number, and the name and phone number of the person charged with receiving the delivery. In some cases, an escort may be required to assist drivers in completing their deliveries. Cost of escorts shall not be borne by the government. Drivers are required to exit the base as soon as practical after completing the delivery.

- After notification, Contractor shall respond (onsite) to emergency service requests as soon as possible but within 45 minutes for the facilities listed in Annex H to the *Base Civil Engineer Contingency Response Plan, April 2002*. The Contractor's representative that responds shall be knowledgeable of the utility system and the Contractor's Service Interruption/Contingency Plan. The representative shall be able to assess damages and estimate the time it will take to make temporary or full-service repairs. For all other reported outages the Contractor shall respond as soon as possible but in no event in excess of the response times stated in section C.8. In accordance with Paragraph H.6, Rights of the Government to Perform Function with Its Own Personnel, the government reserves the right to substitute or supplement the Contractor's efforts during emergency situations where the Contractor's failure or inability to perform is beyond the Contractor's control and without the Contractor's fault or negligence. In this situation, the Contractor would not be held responsible for costs incurred by the government. However, the Contractor could be held financially responsible if the government substitutes or supplements the Contractor's efforts during emergency situations and the Contractor's failure or inability to perform was the result of the fault or negligence of the Contractor.

- The monthly credit to the Government for delayed response times shall be proposed (L.9.6.5), evaluated (M.4.6.4), and any actual credit calculated based on the definition of response time as: initial response by the knowledgeable representative, repair crew response, condition downgrade, and service restoration as described in section C.8 and/or attachment section J.1.3.

- The Contractor shall notify WR-ALC/SEG (Safety Office) and the Contracting Officer, or a designated Government Representative (GR) within one (1) hour of all mishaps or incidents at or exceeding $2,000 (material + labor) in damage to DOD property entrusted by this contract. This notification requirement shall also include physiological mishaps/incidents. A written or e-mail copy of this mishap/incident notification shall be sent within three calendar days to the GR, who will forward it to WR-ALC/SEG (Safety Office). For information not available at the time of initial notification, the Contractor shall provide the remaining information not later than 20 calendar days after the mishap, unless extended by the Contracting Officer. Mishap notifications shall contain, as a minimum, the following information:

  (d) Contract, Contract Number, Name and Title of Person(s) Reporting

(e) Date, Time and exact location of mishap/incident

(f) Brief Narrative of mishap/incident (Events leading to accident/incident)

(g) Cause of mishap/incident, if known

(h) Estimated cost of mishap/incident (material and labor to repair/replace)

(i) Nomenclature of equipment and personnel involved in mishap/incident

(j) Corrective actions (taken or proposed)

(k) Other pertinent information.

- If requested by Government Personnel or designated government representative, the Contractor shall immediately secure the mishap scene/damaged property and impound pertinent maintenance and training records, until released by the WR-ALC Safety Office. Also, the Contractor and their subcontractors shall cooperate fully and assist government personnel until the investigation is finalized and closed out. Safety requirements listed in this package that do not relate to the Contractor's operations or services shall be considered self-deleting as mutually agreed by the Contractor and the Contracting Officer.
- The Contracting Officer is the only individual authorized to incur Government obligations and to make changes to contracts. The Administrative Contracting Officer (ACO) may make certain obligations and changes as provided by the Federal Acquisition Regulation part 42.302 (and supplements) or as may be specifically designated in writing by the Procuring CO. The Contracting Officer's Technical Representative (COTR), if designated, is strictly limited to the authority described in the designation letter executed by the CO. The Installation Commander's duly authorized representative is strictly limited to the tasks described and under no circumstance is authorized to incur additional obligations on behalf of the Government. The Defense Energy Support Center (DESC) is the procuring agent, and after appropriate post-award contract management transition, the Contracting Directorate, Warner Robins Air Logistics Center, shall assume the procuring and administration contracting authority.
- In accordance with Condition F of Attachment 1 to the ROW, the Contractor shall be responsible for grounds maintenance of all areas within the boundaries of the ROW in accordance with base standards.
- In accordance with ROW, the Contractor shall not deliberately injure or kill protected species of wildlife (i.e., non-domesticated animals) without permission from the Contracting Officer, or other representative(s) as designated by the Contracting Officer.
- In accordance with Condition J of Attachment 1 to the ROW, the provisions of ROW Sections 15, 17 and 18 also cover sites identified under the Resource Conservation Recovery Act (RCRA) Corrective Action and the Georgia Environmental Protection Division Underground Storage Tank (UST) program.
- EBSs were completed in 1999 for the Sanitary Sewer System and the Industrial Sewer System (see ROW, Exhibit C). In accordance with Air Force Policy, if the Air Force requires the Contractor to conduct an EBS during the transition period, the cost of the

EBS will be paid by the Air Force. However, if such a document is required and prepared upon expiration, termination, or abandonment of the Right-of-Way, the Grantee will prepare another EBD, in accordance with the Grantor's standards and requirements, and the Grantor and the Grantee will share the cost of the survey equally. The Government will not be liable for the cost of an EBS that is not specifically authorized by the Contracting Officer.

- The Contractor shall not perform alterations to any building or structure deemed to be eligible or potentially eligible for placement on the National Register of Historic Places until approved by said officer.

J4.4 Current Service Arrangement

Robins AFB currently operates its own treatment facilities for domestic and industrial wastewater generated on base. Treated wastewater is discharged to the Ocmulgee River in accordance with NPDES Permit No. GA 0002852, issued by the Georgia Environmental Protection Division (EPD). The Air Force however, may enter into agreements in the future to purchase wastewater treatment services from other entities.

Wastewater collection and treatment systems are regulated by the Georgia EPD under authority granted by Georgia Law. A NPDES permit is required to own and operate the Robins AFB wastewater system. In accordance with paragraph C.3.1, the Contractor is required to obtain, maintain current any and all licenses, permits or certifications necessary to own, maintain, and operate its utility system. Contractors are hereby on notice there may be limiting factors in obtaining permits to perform the work described herein and are strongly advised to ensure that necessary permits can be obtained in a reasonable time in the event a contract is awarded. The Government shall not be liable for reimbursement of bid and proposal costs or additional contract costs in the event a permitting authority refuses for any reason to issue the necessary permits.

Georgia EPD regulations include provisions that allow for a permit transfer. Transfer of the permit requires timely notification to the Director of the EPD and a written agreement. In accordance with paragraph C.3.1, the Contractor shall obtain and maintain any and all licenses, permits, or certifications necessary to own, maintain and operate the wastewater system. Contractor will be identified on the RCRA permit Part B as an "operator" and shall be responsible for operating in compliance with all permit conditions and federal, state and local laws and regulations.

Congress has not waived sovereign immunity for fines and penalties associated with the Clean Water Act (CWA); therefore, Robins AFB does not incur any costs associated with fines and penalties associated with CWA violations, including permit exceedences. Privatization of the wastewater system requires the Contractor to obtain any and all licenses, permits, or certifications necessary to own, maintain and operate the wastewater system. Therefore, the Contractor may be subject to fines and penalties from the Georgia EPD for CWA violations, including permit exceedences. In accordance with paragraph I.7, costs associated with fines and penalties assessed by the Georgia EPD for CWA violations, including permit exceedences, are not considered "allowable costs" with respect to price redetermination unless the costs are the direct result of Air Force negligence.

The average total wastewater flow rate between 1 October 2001 and 30 September 2002 was approximately 1.86 mgd. The peak daily flow rate during this period was 4.39 mgd, which occurred during a storm event and was attributed to an influx of storm water. High peak flow rates, above the rated plant capacity, occur periodically and are attributable to the influx of storm water.

Tables 5A and **5B** summarize the influent design flows and loadings and the permitted effluent limits respectively for the Domestic Wastewater Treatment Plant.

TABLE 5A
Domestic Wastewater Plant Influent Design Flows and Loadings
Wastewater System Robins AFB

PARAMETER	VALUE	UNITS
Average Design Flow	2.87	Mgd
Peak Design Flow	3.60	Mgd
BOD_5 Concentration	255	mg/l
SS Concentration	210	mg/l
NH_3-N Concentration	15	mg/l
TKN Concentration	25	mg/l
pH	7.0	Standard Units

Table Notes:
Source – Robins AFB Domestic Wastewater Treatment Plant Operations and Maintenance Manual

TABLE 5B
Domestic Wastewater Plant Permitted Effluent Limits
Wastewater System Robins AFB

Parameter	Daily Avg. (lbs/day) [1]	Daily Max. (lbs/day) [1]	Daily Ave. (mg/l)	Daily Max. (mg/l)
Biochemical Oxygen Demand	243	584	15	25
Chemical Oxygen Demand	782	1751	45	75
Suspended Solids	243	701	15	30
Ammonia Nitrogen	117	175	5	7.5
Oils and Grease	162	350	10	15
Fecal Coliforms	-	-	200/100 ml	400/100 ml

TABLE 5B
Domestic Wastewater Plant Permitted Effluent Limits
Wastewater System Robins AFB

Parameter	Daily Avg. (lbs/day) [1]	Daily Max. (lbs/day) [1]	Daily Ave. (mg/l)	Daily Max. (mg/l)
Total Chlorine Residual	-	-	-	-
Phenols	1.62	4.67	0.1	0.2
Lead	-	7	-	0.3
pH	6-9	-	6-9	-

Table Notes:
Source – Robins AFB Domestic Wastewater Treatment Plant Operations and Maintenance Manual
1 – mass-based loading

Tables 6A and **6B** summarize the influent design flows and loadings and the permitted effluent limits respectively for Industrial Wastewater Treatment Plant No. 1.

TABLE 6A
Industrial Wastewater Plant No. 1 Influent Design Flows and Loadings
Wastewater System Robins AFB

PARAMETER	VALUE	UNITS
Average Design Flow	287,000	Gpd
Peak Design Flow	650,000	Gpd
Chromium (Cr^{+6}) Concentration	0-300	mg/l
Cyanide Concentration	0	mg/l
pH	4	Standard Units

Table Notes:
Source – Robins AFB Industrial Wastewater Treatment Operations and Maintenance Manual

TABLE 6B
Industrial Wastewater Plant No. 1 Permitted Effluent Limits (Outfalls 009 and 010)
Wastewater System Robins AFB

PARAMETER	DAILY AVG.	DAILY MAX.	UNITS
Flow	-		Mgd
BOD5	15	25	mg/l

TABLE 6B
Industrial Wastewater Plant No. 1 Permitted Effluent Limits (Outfalls 009 and 010)
Wastewater System Robins AFB

PARAMETER	DAILY AVG.	DAILY MAX.	UNITS
COD	45	75	mg/l
TSS	15	30	mg/l
Ammonia Nitrogen	5	7.5	mg/l
Oil & Grease	10	15	mg/l
Fecal Coliform Bacteria	200	400	#/100 mL
Total Residual Chlorine	-	-	mg/l
Total Phenols	0.1	0.2	mg/l
Cadmium	-	-	mg/l
Chromium	-	-	mg/l
Copper	-	-	mg/l
Lead	-	0.3	mg/l
Nickel	-	-	mg/l
Zinc	-	-	mg/l
pH	- -	6-9	Standard units

Table Notes:
Source – Robins AFB Industrial Wastewater Treatment Operations and Maintenance Manual

Tables 7A and **7B** summarize the influent design flows and loadings and the permitted effluent limits respectively for Industrial Wastewater Treatment Plant No. 2.

TABLE 7A
Industrial Wastewater Plant No. 2 Influent Design Flows and Loadings
Wastewater System Robins AFB

PARAMETER	VALUE	UNIT
Chromium Waste Flow (Cr+6)		
Minimum	14,000	gal/8 hrs
Average	28,000	gal/16 hrs
Maximum	66,000	gal/24 hrs
Acid/Alkali Waste Flow		
Minimum	48,500	gal/8 hrs
Average	97,000	gal/16 hrs

TABLE 7A
Industrial Wastewater Plant No. 2 Influent Design Flows and Loadings
Wastewater System Robins AFB

PARAMETER	VALUE	UNIT
Maximum	228,000	gal/24 hrs
Cyanide Waste Flow (Cn)		
Minimum	35,500	gal/8 hrs
Average	71,000	gal/16 hrs
Maximum	166,500	gal/24 hrs
Chromium Conc	27 – 365 (0 – 5,000)a	
Acid/Alkali Conc.	65 – 95 (Acid)	
Cyanide Conc.	36 – 150	

Table Notes:
1 – Initial design concentration was 27-365 mg/l, however, occasionally the chromium concentrations are in the range of 0-5,000 mg/l.

TABLE 7B
Industrial Wastewater Plant No. 2 Permitted Effluent Limits (Outfalls 008)
Wastewater System Robins AFB

PARAMETER	DAILY AVG.	DAILY MAX.	UNITS
Flow	0.46	0.46	Mgd
COD	75	150	mg/l
Suspended Solids	15	30	mg/l
Oil & Grease	10	15	mg/l
Total Cyanide	0.075	0.35	mg/l
Cadmium	0.1	0.15	mg/l
Chromium	0.3	0.45	mg/l
Copper	0.2	0.3	mg/l
Lead	0.25	0.4	mg/l
Nickel	0.5	0.75	mg/l
Zinc	0.3	0.45	mg/l
Silver	0.025	-	mg/l
Total Toxic Organics	-	2.13	mg/l
pH	-	6-9	Standard Units

TABLE 7B
Industrial Wastewater Plant No. 2 Permitted Effluent Limits (Outfalls 008)
Wastewater System Robins AFB

PARAMETER	DAILY AVG.	DAILY MAX.	UNITS

J4.5 Secondary Metering

The contractor is responsible for the wastewater meters that are used at each treatment plant and at the outfalls.

There are currently no requirements for secondary metering of wastewater at base facilities (with the exception of the treatment plants) included in this contract. Any future wastewater secondary metering requested by the Government will be In accordance with C.3, Future Secondary Meters.

J4.6 Monthly Submittals

In addition to the submittal requirements from Paragraph H.5, the Contractor shall provide the Government monthly submittals for:

1. Invoice (in accordance with G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

   Name: WR-ALC/PKOS
   Address: 235 Byron Street, Robins AFB, GA, 31098-1611
   Phone number: (478) 926-3666

   Name: 78CES/CEAE
   Address: 775 Macon Street, Robins AFB, GA 31098-2077
   Phone number: (478) 926-5820 ext 172

2. Outage Report. The Contractor's monthly outage report (blockage and overflow information) will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

   Name: WR-ALC/PKOS
   Address: 235 Byron Street, Robins AFB, GA 31098-1611
   Phone number: (478) 926-3666

   Name: 78CES/CEAE
   Address: 775 Macon Street, Robins AFB, GA 31098-2077
   Phone number: (478) 926-5820 ext 172

   Name: WR-ALC/EMQ

Address: 455 Byron Street, Suite 465, Robins AFB, GA 31098-1860
Phone number: (478) 926-1197 ext 150

3. Infiltration and Inflow Report. If required by Paragraph C.3, the Contractor shall submit an Infiltration and Inflow report in a format proposed by the Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to:

   Name: WR-ALC/PKOS
   Address: 235 Byron Street, Robins AFB, GA 31098-1611
   Phone number: (478) 926-3666

   Name: 78CES/CEAE
   Address: 775 Macon Street, Robins AFB, GA 31098-2077
   Phone number: (478) 926-5820 ext 172

   Name: WR-ALC/EMQ
   Address: 455 Byron Street, Suite 465, Robins AFB, GA 31098-1860
   Phone number: (478) 926-1197 ext 150

4. NPDES Report. The Contractor's NPDES report will be prepared and submitted to the State in the format required by the State. Copy of the NPDES report shall be submitted by the 21st of each month for the previous month. Copy of NPDES report shall be submitted to:

   Name: WR-ALC/PKOS
   Address: 235 Byron Street, Robins AFB, GA 31098-1611
   Phone number: (478) 926-3666

   Name: 78CES/CEAE
   Address: 775 Macon Street, Robins AFB, GA 31098-2077
   Phone number: (478) 926-5820 ext 172

   Name: WR-ALC/EMQ
   Address: 455 Byron Street, Suite 465, Robins AFB, GA 31098-1860
   Phone number: (478) 926-1197 ext 150

5. Other reports required by regulatory authorities and identified in this attachment shall be submitted to:

   Name: WR-ALC/PKOS
   Address: 235 Byron Street, Robins AFB, GA 31098-1611
   Phone number: (478) 926-3666

   Name: 78CES/CEAE
   Address: 775 Macon Street, Robins AFB, GA 31098-2077
   Phone number: (478) 926-5820 ext 172

   Name: WR-ALC/EMQ
   Address: 455 Byron Street, Suite 465, Robins AFB, GA 31098-1860
   Phone number: (478) 926-1197 ext 150

   Name: 78AMD/SGPB

Address: Street, Robins AFB, GA 31098
Phone number: (478) 926-1197 ext 150

J4.7 Infiltration and Inflow (I&I) Projects

In accordance with Paragraph C.3, Utility Service Requirement, the following projects have been implemented by the Government for managing and monitoring I&I. Contractor shall continue this practice.

- Robins AFB is currently in a five-year program to clean, videotape, and upgrade wastewater collection lines and manholes.

J4.8 Service Area

In accordance with Paragraph C.4, Service Area, the service area is defined as all areas within the Robins AFB main base boundaries.

J4.9 Off-Installation Sites

No off-installation sites are included in the sale of the Robins AFB wastewater system.

J4.10 Specific Transition Requirements

In accordance with Paragraph C.17, Transition Plan, **Table 5** lists the service connections and disconnections required upon transfer.

TABLE 5
Service Connections and Disconnections
Wastewater System Robins AFB

Location	Description
N/A	There are no service connections or disconnections for the system to be privatized

J4.11 Government Recognized System Deficiencies

Table 6 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the Robins AFB wastewater system. If the utility system is sold, the Government will not accomplish these planned improvements. The Contractor shall make a determination as to its actual need to accomplish and the timing of any and all such planned improvements. Capital upgrade projects shall be proposed through the Capital Upgrades and Renewal and Replacement Plan process and will be recovered through Schedule L-3. Renewal and Replacement projects will be recovered through Sub-CLIN AC.

TABLE 6
Government Recognized System Deficiencies
Wastewater System Robins AFB

Project Location	Project Description
Base-wide	During storm events, the Domestic and Industrial wastewater collection systems experience increased flow. I&I and cross-connections are the suspected causes of the increased flow. Historic investigations have identified I&I source areas and point source remedies (grouting, plugging, slip-lining, etc.) have been implemented.
Family Housing	Some of the main sanitary lines that were slip-lined in the 90s have distorted and have reduced capability.